CLAIMS

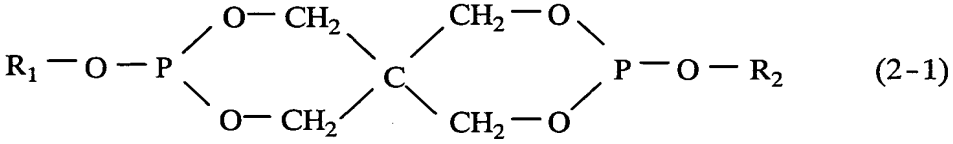
1. A direct backlight type liquid crystal device comprising:
a backlight source,
a light diffusion sheet which may have a protective film on a surface thereof which faces the backlight source or on both surfaces thereof as desired,
a light ray adjusting film, and
a liquid crystal panel,
wherein
the light diffusion sheet is formed from a composition comprising:
(A) 80 to 99.995 wt% of aromatic polycarbonate resin (component A), and
(B) 0.005 to 20 wt% of polymeric fine particles (component B) having an average particle diameter of 0.01 to 50 μm,
and
(C) 0.001 to 5 parts by weight of at least one heat stabilizer (component C) selected from the group consisting of a phosphate compound (component C-1), a phosphite compound (component C-2) and a phosphonite compound (component C-3),
(D) 0 to 2 parts by weight of ultraviolet absorber (component D), and
(E) 0.0001 to 3 parts by weight of fluorescent whitening agent (component E),
based on 100 parts by weight of the total of the components A and B.

2. The device of claim 1, wherein the average particle diameter of the polymeric fin particles (component B) is 0.1 to 10 μm.

3. The device of claim 1, wherein the absolute value of the difference between the refractive index of the polymeric fine particles (component B) and the refractive index of the aromatic polycarbonate resin (component A) is 0.02 to 0.3.

4. The device of claim 1, wherein the polymeric fine particles (component B) are cross-linked silicone particles or cross-linked acryl particles.

5. The device of claim 1, wherein the heat stabilizer (component C) is at least one compound selected from the group consisting of trialkyl phosphate (component C-1) and a pentaerythritol diphosphite compound (component C-2) represented by the following general formula (2-1):



(2-1)

(wherein R_1 and R_2 each represent a hydrogen atom, an alkyl group having 1 to 20 carbon atoms, a substituted or unsubstituted aryl group having 6 to 30 carbon atoms, a substituted or unsubstituted aralkyl group having 7 to 30 carbon atoms, a substituted or unsubstituted cycloalkyl group having 4 to 20 carbon atoms or a 2-(4-oxyphenyl)propyl substituted aryl group having 15 to 25 carbon atoms.)

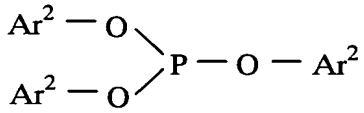
6. The device of claim 1, wherein the heat stabilizer (component C) is trimethyl phosphate (component C-1).

7. The device of claim 1, wherein the heat

stabilizer (component C) is distearyl pentaerythritol diphosphite (component C-2).

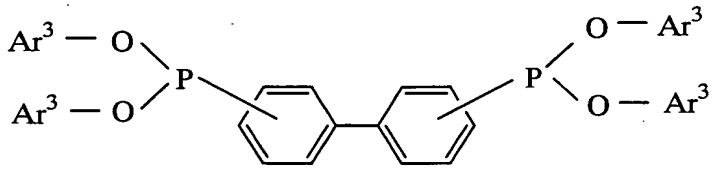
8. The device of claim 1, wherein the heat stabilizer (component C) comprises trimethyl phosphate (component C-1) and distearyl pentaerythritol diphosphite (component C-2).

9. The device of claim 1, wherein the heat stabilizer (component C) comprises distearyl pentaerythritol diphosphite (component C-2), a phosphite compound (component C-2) represented by the following general formula (2-2):



(2-2)

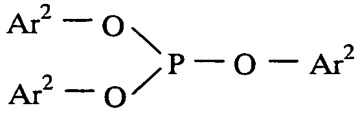
(wherein Ar^2s may be the same as or different from one another and represent a C_8 to C_{20} aryl group substituted with 2 to 4 alkyl groups),
and a phosphonite compound (component C-3) represented by the following general formula (3-1):



(3-1)

(wherein Ar^3s may be the same as or different from one another and represent a C_6 to C_{20} aryl group which is unsubstituted or substituted with an alkyl group).

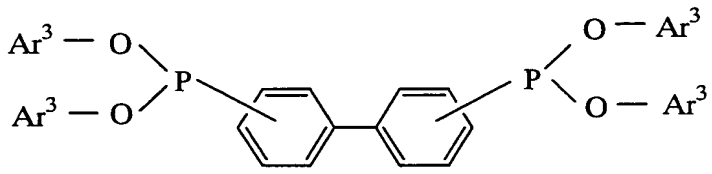
10. The device of claim 1, wherein the heat stabilizer (component C) comprises a phosphite compound (component C-2) represented by the following general formula (2-2):



(2-2)

(wherein Ar^2s may be the same as or different from one another and represent a C_8 to C_{20} aryl group substituted with 2 to 4 alkyl groups),

and a phosphonite compound (component C-3) represented by the following general formula (3-1):



(3-1)

(wherein Ar^3s may be the same as or different from one another and represent a C_6 to C_{20} aryl group which is unsubstituted or substituted with an alkyl group).

11. The device of claim 1, wherein the light diffusion sheet has a thickness of 0.5 to 10 mm.

12. The device of claim 1, wherein the ultraviolet absorber (component D) is at least one ultraviolet absorber selected from the group consisting of a benzophenone based ultraviolet absorber, a benzotriazole based ultraviolet absorber and a benzoxazine based ultraviolet absorber.

13. The device of claim 1, wherein when the light diffusion sheet does not have a protective film, the content of the ultraviolet absorber (component D) in the composition forming the light diffusion sheet is 0.01 to 2 parts by weight based on 100 parts by weight of the total of the components A and B.

14. The device of claim 1, wherein when the light

diffusion sheet has a protective film, the protective film is an organic polymer film containing 0.1 to 50 wt% of ultraviolet absorber (component D^p) and having a thickness of 0.1 to 500 μm, and the content of the ultraviolet absorber (component D) in the composition forming the light diffusion sheet is 0 to 0.5 parts by weight based on 100 parts by weight of the total of the components A and B.

15. The device of claim 1, wherein the organic polymer constituting the protective film is an acrylic resin, a polycarbonate resin, a polyethylene rein or a polyester resin.

16. The device of claim 1, wherein the ultraviolet absorber (component D^p) in the protective film is at least one ultraviolet absorber selected from the group consisting of a benzophenone based ultraviolet absorber, a benzotriazole based ultraviolet absorber and a benzoxazine based ultraviolet absorber.

17. The device of claim 1, wherein the fluorescent whitening agent (component E) is a benzoxazole based fluorescent whitening agent and/or a coumarin based fluorescent whitening agent.

18. A light diffusion sheet for a direct backlight which is formed from a composition comprising:
(A) 80 to 99.995 wt% of aromatic polycarbonate resin (component A), and
(B) 0.005 to 20 wt% of polymeric fine particles (component B) having an average particle diameter of

0.01 to 50 μm,
and
(C) 0.001 to 5 parts by weight of at least one heat stabilizer (component C) selected from the group consisting of a phosphate compound (component C-1), a phosphite compound (component C-2) and a phosphonite compound (component C-3),
(D) 0 to 2 parts by weight of ultraviolet absorber (component D), and
(E) 0.0001 to 3 parts by weight of fluorescent whitening agent (component E),
based on 100 parts by weight of the total of the components A and B.

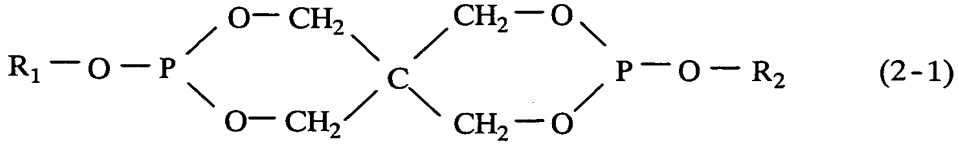
19. The light diffusion sheet of claim 18, wherein the average particle diameter of the polymeric fine particles (component B) is 0.1 to 10 μm.

20. The light diffusion sheet of claim 18, wherein the absolute value of the difference between the refractive index of the polymeric fine particles (component B) and the refractive index of the aromatic polycarbonate resin (component A) is 0.02 to 0.3.

21. The light diffusion sheet of claim 18, wherein the polymeric fine particles (component B) are cross-linked silicone particles or cross-linked acryl particles.

22. The light diffusion sheet of claim 18, wherein the heat stabilizer (component C) is at least one compound selected from the group consisting of trialkyl phosphate (component C-1) and a pentaerythritol diphosphite compound (component C-2)

represented by the following general formula (2-1):



(2-1)

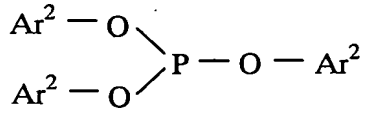
(wherein R_1 and R_2 each represent a hydrogen atom, an alkyl group having 1 to 20 carbon atoms, a substituted or unsubstituted aryl group having 6 to 30 carbon atoms, a substituted or unsubstituted aralkyl group having 7 to 30 carbon atoms, a substituted or unsubstituted cycloalkyl group having 4 to 20 carbon atoms or a 2-(4-oxyphenyl)propyl substituted aryl group having 15 to 25 carbon atoms.)

23. The light diffusion sheet of claim 18, wherein the heat stabilizer (component C) is trimethyl phosphate (component C-1).

24. The light diffusion sheet of claim 18, wherein the heat stabilizer (component C) is distearyl pentaerythritol diphosphite (component C-2).

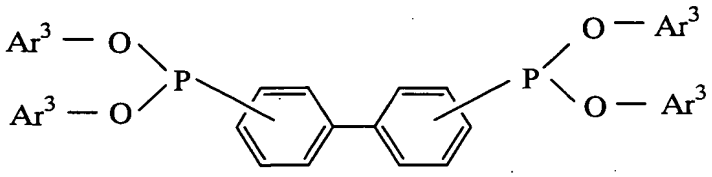
25. The light diffusion sheet of claim 18, wherein the heat stabilizer (component C) comprises trimethyl phosphate (component C-1) and distearyl pentaerythritol diphosphite (component C-2).

26. The light diffusion sheet of claim 18, wherein the heat stabilizer (component C) comprises distearyl pentaerythritol diphosphite (component C-2), a phosphite compound (component C-2) represented by the following general formula (2-2):



(2-2)

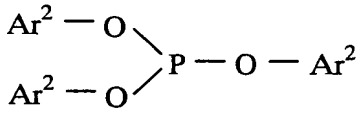
(wherein Ar^2s may be the same as or different from one another and represent a C_8 to C_{20} aryl group substituted with 2 to 4 alkyl groups),
and a phosphonite compound (component C-3) represented by the following general formula (3-1):



(3-1)

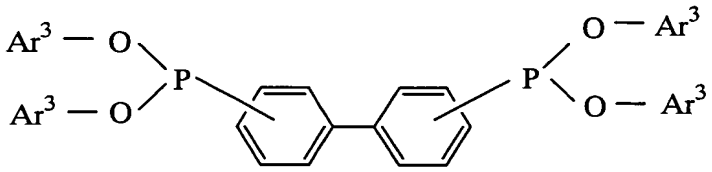
(wherein Ar^3s may be the same as or different from one another and represent a C_6 to C_{20} aryl group which is unsubstituted or substituted with an alkyl group).

27. The light diffusion sheet of claim 18, wherein the heat stabilizer (component C) comprises a phosphite compound (component C-2) represented by the following general formula (2-2):



(2-2)

(wherein Ar^2s may be the same as or different from one another and represent a C_8 to C_{20} aryl group substituted with 2 to 4 alkyl groups),
and a phosphonite compound (component C-3) represented by the following general formula (3-1):



(3-1)

(wherein Ar^3s may be the same as or different from one another and represent a C_6 to C_{20} aryl group which is unsubstituted or substituted with an alkyl group).

28. The light diffusion sheet of claim 18,

wherein the ultraviolet absorber (component D) is at least one ultraviolet absorber selected from the group consisting of a benzophenone based ultraviolet absorber, a benzotriazole based ultraviolet absorber and a benzoxazine based ultraviolet absorber.

29. The light diffusion sheet of claim 18, having a thickness of 0.5 to 10 mm.

30. The light diffusion sheet of claim 18, wherein the fluorescent whitening agent (component E) is a benzoxazole based fluorescent whitening agent and/or a coumarin based fluorescent whitening agent.